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AMENDMENTS TO THE CLAIMS

The following is a complete listing of the claims indicating the current status of each claim and including amendments currently entered as highlighted.

1. (Currently Amended) An associative search engine (ASE) for data storage and retrieval, the associative search engine comprising:

- (a) a search engine manager (SEM), disposed within a chip, said search engine manager including:
 - (i) processing logic;
- (b) a memory system, including an external memory, said external memory disposed outside of said chip, said memory system including:
 - (i) a plurality of memory storage units, each memory storage unit of said memory storage units having at least a first array for storing a plurality of range boundary information;
- (c) at least a second array for storing a plurality of associated data entries, said data entries being associated with said range boundary information,

wherein said processing logic is designed and configured to search, in response to an input key, said range boundary information, so as to determine if said input key falls within a range associated with a particular range boundary information of said range boundary ~~information.~~ information, and

wherein said range boundary information is stored in said memory storage units as logical two-dimensional arrays (TDAs) arranged for a search tree having a plurality of levels, so as to provide an increased rate of the data retrieval from said memory system to said processing logic.

2. (Original) The associative search engine of claim 1, wherein the search engine manager has an internal memory disposed within said chip.

3. (Original) The associative search engine of claim 1, wherein said range is represented by a single boundary value.